DESCRIPTION

Game Progress Administering System, Game Progress Administering

Method, and Computer-Readable Recording Medium Storing

Game Progress Administering Program

FIELD OF TECHNOLOGY

The present invention relates to a game progress administering system in which game terminal units to be operated by players are so connected via communication lines as to be able to communicate operation signals necessary for the progress of a game, a game progress administering method and a computer-readable recording medium storing a game administering program.

BACKGROUND TECHNOLOGY

Various video game systems playable among a plurality of players have been conventionally proposed or already used. There is also known a video game system in which a plurality of video game apparatuses (game terminal units) of the same type are installed for arcade games and connected via a network (and a server) such as a LAN or Internet, so that a plurality of players can play a game in the same game space. In such a video game system, table games such as mahjong and *shoji* (Japanese chess) and competing-type games such as sports and martial arts (hereinafter, table games and fighting-type games are collectively called as competition games) are played.

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In the case of playing the above competition game, an unspecified number of players can participate in the competition game since a plurality of video game apparatuses are connected via the network such as the LAN or Internet. In the case where strangers compete with each other in this way, since abilities of the competitors concerning the competition game cannot be known, the competition game can become unpredictable and interesting in a specific manner as compared to ordinary competition games played using stand-alone video game apparatuses as competitors.

On the other hand, by completing the competition game in a tournament comprised of a plurality of rounds, players can compete with more competitors, thereby being more interested in the game and having his gambling spirit urged upon continuing to win in the rounds.

Competition games include those for which competition times are set (hereinafter, "competition games with time limit") and those for which competition times are difficult to set due to the natures of the games (hereinafter, "competition games without time limit").

However, if a competition time required for one competition game with time limit is long such as a soccer game simulating soccer and having the first and second halves of 45 minutes, competition time becomes even longer if the competition games are played in the form of a tournament, wherefore players are

restraint for a long time to lose interest in the game.

In the case of playing a competition game without time limit (e.g. a mahjong game simulating mahjong) in the form of a tournament, even if the first rounds of the tournament are started at the same time, competition ending times differ depending on the combinations of players constituting the tournament (competition times differ). Thus, how to handle starting timings, methods, etc. of the succeeding rounds has been a problem for the realization of games of this type. In other words, it is particularly quite difficult to smoothly and quickly proceed with tournaments of the games of this type.

In view of the above problems, an object of the present invention is to provide a game progress administering system capable of quickly and smoothly proceeding with competition games in a tournament comprised of a plurality of rounds in massively multiplayer online playing games, a game progress administering method and a computer-readable recording medium storing a game progress administering program.

DISCLOSURE OF THE INVENTION

In order to accomplish the above object, the present invention is directed to a game progress administering system in which game terminal units to be operated by players are operated while being so connected via communication lines as to be able to communicate operation signals necessary for the progress of a

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game, thereby administering the progresses of competition games in a tournament made up of a plurality of rounds, comprising participation receiving means for receiving the participation in the competition game from the game terminal units; combination generating means for fitting participating terminal units, which are game terminal units whose participation was received by the participation receiving means, in combinations of the competition game tournament in accordance with a specified rule; competition starting means for allotting one game space to one combination in accordance with the combinations generated by the combination generating means and instructing the participating terminal units to start the competition games in the respective rounds; and competition ending means for instructing the participating terminal units to end competitions in the respective rounds in accordance with time limits for competition times set beforehand for the respective rounds at least up to the semifinal round and determining winning participating terminal units in accordance with the dominance in the progress statuses of the competition games when the competitions were ended.

According to this system, the participation receiving means receives the participation in the competition game from the game terminal units and the combination generating means fits the participating terminal units, which are game terminal units whose participation was received by the participation receiving

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means, in the combinations of the competition game tournament in accordance with the specified rule. Then, the competition starting means allots one game space to one combination in accordance with the combinations generated by the combination generating means and instructs the participating terminal units to start the competition games in each round. Subsequently, the competition ending means instructs the participating terminal units to end the competition games in the respective rounds in accordance with the time limits set beforehand for the respective rounds at least up to the semifinal round and determines the winning participating terminal units in accordance with the dominance in the progress statuses of the competition games when the competitions were ended.

Thus, the participating terminal units are instructed to end the competitions in the respective rounds in accordance with the time limits set beforehand for the respective rounds at least up to the semifinal round, and the winning participating terminal units are determined in accordance with the dominance in the progress statuses of the competition games when the competitions were ended. Therefore, the competition games can be quickly and smoothly proceeded with by suitably setting the time limits for the competition times.

The present invention is also directed to a game progress administering method using a game progress administering system in which game terminal units to be operated by players are

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operated while being so connected via communication lines as to be able to communicate operation signals necessary for the progress of a game, thereby administering the progresses of competition games in a tournament made up of a plurality of rounds, the game progress administering method causing the game progress administering method to perform participation receiving process for receiving the participation in the competition game from the game terminal units; combination generating process for fitting participating terminal units, which are game terminal units whose participation was received in the participation receiving process, in combinations of the competition game tournament in accordance with a specified rule; competition starting process for allotting one game space to one combination in accordance with the combinations generate in the combination generating process and instructing the participating terminal units to start the competition games in the respective rounds; and competition ending process for instructing the participating terminal units to end competitions in the respective rounds in accordance with time limits for competition times set beforehand for the respective rounds at least up to the semifinal round and determining winning participating terminal units in accordance with the dominance in the progress statuses of the competition games when the competitions were ended.

According to this method, the participation in the competition game are received from the game terminal units in

the participation receiving process, and the participating terminal units, which are game terminal units whose participation was received in the participation receiving process, are fitted in the combinations of the competition game tournament in accordance with the specified rule in the combination generating process. Then, one game space is allotted to one combination in accordance with the combinations generated in the combination generating process and the participating terminal units are instructed to start the competition games in each round in the competition starting process. Subsequently, in the competition ending process, the participating terminal units are instructed to end the competition games in the respective rounds in accordance with the time limits set beforehand for the respective rounds at least up to the semifinal round and the winning participating terminal units are determined in accordance with the dominance in the progress statuses of the competition games when the competitions were ended.

Thus, the participating terminal units are instructed to end the competitions in the respective rounds in accordance with the time limits set beforehand for the respective rounds at least up to the semifinal round, and the winning participating terminal units are determined in accordance with the dominance in the progress statuses of the competition games when the competitions were ended. Therefore, the competition games can

be quickly and smoothly proceeded with by suitably setting the time limits for the competition times.

The present invention is further directed to a computer-readable recording medium storing a game progress administering program for a game progress administering system in which game terminal units to be operated by players are operated while being so connected via communication lines as to be able to communicate operation signals necessary for the progress of a game, thereby administering the progresses of competition games in a tournament made up of a plurality of rounds, the game progress administering program causing the game progress administering system to function as participation receiving means for receiving the participation in the competition game from the game terminal units; combination generating means for fitting participating terminal units, which are game terminal units whose participation was received by the participation receiving means, in combinations of the competition game tournament in accordance with a specified rule; competition starting means for allotting one game space to one combination in accordance with the combinations generated by the combination generating means and instructing the participating terminal units to start the competition games in the respective rounds; and competition ending means for instructing the participating terminal units to end competitions in the respective rounds in accordance with time limits for competition times set beforehand

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for the respective rounds at least up to the semifinal round and determining winning participating terminal units in accordance with the dominance in the progress statuses of the competition games when the competitions were ended.

According to the computer-readable recording medium storing this program, the participation receiving means receives the participation in the competition game from the game terminal units and the combination generating means fits the participating terminal units, which are game terminal units whose participation was received by the participation receiving means, in the combinations of the competition game tournament in accordance with the specified rule. Then, the competition starting means allots one game space to one combination in accordance with the combinations generated by the combination generating means and instructs the participating terminal units to start the competition games in the respective rounds. Subsequently, the competition ending means instructs the participating terminal units to end the competition games in the respective rounds in accordance with the time limits set beforehand for the respective rounds at least up to the semifinal round and determines the winning participating terminal units in accordance with the dominance in the progress statuses of the competition games when the competition were ended.

Thus, the participating terminal units are instructed to

end the competitions in the respective rounds in accordance with the time limits set beforehand for the respective rounds at least up to the semifinal round, and the winning participating terminal units are determined in accordance with the dominance in the progress statuses of the competition games when the competitions were ended. Therefore, the competition games can be quickly and smoothly proceeded with by suitably setting the time limits for the competition times.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a construction diagram of a game system to which a game progress administering system of the invention is applied,

FIG. 2 is a perspective view showing one example of the external appearance of a client terminal unit,

FIG. 3 is a hardware construction diagram showing one example of the client terminal unit,

FIG. 4 is a functional construction diagram showing one example of a control unit of the client terminal unit,

FIGS. 5 are tables showing one example of assigning conditions for ranks representing strength levels of players in this game,

FIG. 6 is a table showing one example of tile discarding times TA set for the respective ranks,

FIG. 7 is a perspective view showing one example of the

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external appearance of a shop server,

FIG. 8 is a hardware construction diagram showing one example of the shop server,

FIG. 9 is a hardware construction diagram showing one example of the shop server,

FIG. 10 is a hardware construction diagram showing one example of the shop server,

FIG. 11 is a table showing one example of table information for a table constructed by client terminal units a1, a3, b8 and c2 shown in FIG. 10,

FIGS. 12 are tables showing examples of contents of processes for transmitting and receiving operation signals by status updating sections of shop servers A, B and C,

FIG. 13 is a hardware construction diagram showing one example of a central server,

FIG. 14 is a functional construction diagram showing one example of a control unit of the central server,

FIG. 15 is a chart showing one example of a rule for fitting participating terminal units in combinations of a tournament,

FIG. 16 is a flow chart showing one example of processes carried out by the client terminal unit,

FIG. 17 is a detailed flow chart showing one example of a process of administering a tile discarding time TA in a competition process carried out in Step S109 of the flow chart

shown in FIG. 16,

FIG. 18 is a flow chart showing one example of processes carried out by the central server,

FIG. 19 is a diagram showing one example of a tournament-generated-state display screen to be displayed on monitors of the client terminal units in Step S105 of the flow chart shown in FIG. 16,

FIG. 20 is a diagram showing one example of a tournament-generated-state display screen to be displayed on the monitors of the client terminal units in Step S105 of the flow chart shown in FIG. 16,

FIG. 21 is a diagram showing one example of a competition screen to be displayed on the monitors of the client terminal units in Step S109 of the flow chart shown in FIG. 16,

FIG. 22 is a diagram showing one example of a winner display screen to be displayed on the monitor of the client terminal unit in the case of a winner in Step S115 of the flow chart shown in FIG. 16,

FIG. 23 is a diagram showing one example of a competition result display screen to be displayed on the monitor of the client terminal unit in the case of the winner in Step S115 of the flow chart shown in FIG. 16,

FIG. 24 is a diagram showing another example of the competition result display screen to be displayed on the monitor of the client terminal unit in the case of the winner in Step

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S115 of the flow chart shown in FIG. 16, and

FIG. 25 is a diagram showing one example of a continuation necessity input screen to be displayed on the monitor of the client terminal unit in the case of a loser in Step S115 of the flow chart shown in FIG. 16.

BEST MODES FOR EMBODYING THE INVENTION

FIG. 1 is a construction diagram of a game system to which a game progress administering system of the invention is applied. The game system is provided with client terminal units (corresponding to a part of a game progress administering system and game terminal units) 1 assigned with corresponding identification information, shop servers 2 each communicably connected with a plurality of (eight in this example) client terminal units 1 via special lines 5, a central server 3 (corresponding to a part of the game progress administering system) communicably connected with a plurality of shop servers 2 via communication lines 4 to administer a game played by a plurality of players using the client terminal units 1. It should be noted that the shop servers 2 are communicably connected with each other via the communication lines 4.

Each client terminal unit 1 receives specified operations a player carries out while referring to a game screen displayed on a monitor, and proceeds with a game in accordance with instruction information transmitted from the corresponding shop

server 2 (or central server 3) and operation signals from the other client terminal units 1.

The identification information assigned in correspondence with each client terminal unit 1 includes identification information of the shop server 2 connected with this client terminal unit 1 (or identification information of a shop where this client terminal unit 1 is installed), and identification information (referred to as a "terminal number") of this client terminal unit 1 in the shop where this client terminal unit 1 is installed. For example, if the identification information of a shop server A of a shop A is "A" and the identification information of the client terminal unit 1 in the shop A is "4", the identification information of this client terminal unit 1 is "a4".

Each shop server 2 is communicably connected with a plurality of (eight in this example) client terminal units 1 and the central server 3, transmit and receive data to and from the client terminal units 1 and the central server 3, and generates a simulation operation signal necessary for the progress of the game and transmits it to the client terminal unit 1 upon detecting the communication line 4 incapable of communication.

The client terminal units 1 to be operated by players are so connected with the central server 3 as to be able to communicate operation signals necessary for the progress of the game with each other via the communication lines 4 (and the shop

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servers 2), administers the progresses of competition games of a tournament comprised of a plurality of rounds, and stores characteristic data of players' fingerprints necessary for fingerprint authentication to be described later as player information in correspondence with user IDs.

FIG. 2 is a perspective view showing the external appearance of one embodiment of the client terminal unit 1. Although a video game apparatus for business use integrally constructed with a monitor is described as one example of the client terminal unit in the following description, the present invention is not particularly limited to this example and is similarly applicable to video game apparatuses for home use constructed by connecting a video game machine for home use with a home television, personal computers that function as video game apparatuses by executing a video game program, etc.

In this embodiment, competition games played using the client terminal units 1 according to the present invention are mahjong games simulating a mahjong tournament comprised of a plurality of rounds (three rounds in this example) and played by a specified number of (here, sixty four) players, wherein the player operating each client terminal unit 1 competes with those operating the other client terminal units 1 or a CPU player. As described later, competition games are played within a time limit of 10 minutes in the first and second rounds, and an east round (four positions with east as a prevailing wind) without

time limit is played in the third round (final round). In the case of competing with the players operating the other client terminal units 1, data are transmitted and received between the client terminal units 1 via network communicators 18 to be described later, the shop servers 2 and the central server 3, etc. and information concerning game progress states are saved in the shop servers 2.

Each client terminal unit 1 is provided with a monitor 11 for displaying game screens, a touch panel 11a for judging which button has been pressed to instruct based on an address of a button displayed on a game screen of the monitor 11 to urge the selection or the like and a position pressed by the player, a loudspeaker 12 for outputting sounds, a card reader 13 for reading information such as the user ID stored in an individual card, a fingerprint authenticating device 14 for extracting characteristic data necessary for the authentication of an individual using fingerprint information from a CCD camera 14a to be described later, and a coin receiving device 15 for receiving coins inserted by the player. The characteristic data extracted by the fingerprint authenticating device 14 is saved in a player information 362a of the central server 3 to be described later via the network communicator 18, the shop server 2 to be described later, etc.

The monitor 11 is, for example, a thin liquid crystal display for displaying images. The loudspeaker 12 is for

outputting specified messages and BGMs. The fingerprint authenticating device 14 includes the CCD camera 14a for picking up images of a player's fingerprint. Instead of the CCD camera 14a, another digital image pickup apparatus (e.g. CMOS camera) may be used. The coin receiving device 15 is provided with a coin outlet 151 to which the coin is discharged in the case where the inserted coil is a defective coin or the like.

The individual card is a magnetic card, an IC card or the like in which individual information such as a user ID is stored. Although not shown, the card reader 13 is for enabling the readout of the individual information from the inserted individual card.

A control unit 16 (see FIG. 3) including a microcomputer for receiving detection signals from the respective devices and outputting control signals to the respective devices is provided at a specified position of the client terminal unit 1.

FIG. 3 is a hardware construction diagram showing one embodiment of the client terminal unit 1. The control unit 16 is for controlling the overall operation of the client terminal unit 1, and includes an information processor (CPU) 161, a RAM 162 for temporarily saving information and the like obtained during processes, and a ROM 163 storing specified image information, a game program and the like to be described later.

An external input/output controller 171 converts the detection signals into digital signals to be used for the

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processes between the control unit 16 and detectors including the card reader 13, the touch panel 11a, the CCD camera 14a and the coin receiving device 15, and outputs command information to the respective detectors after converting it into control signals. Such signal processing and input/output processing are carried out, for example, in a time-sharing manner. An external device controller 172 outputs the control signals to the respective detectors and receives the detection signals from the respective detectors within the respective time-sharing periods.

An imaging processor 111 is for causing the monitor 11 to display a desired image in accordance with an image displaying instruction from the control unit 16 and includes a video RAM and the like. A sound reproducing device 121 is for outputting a specified message, a BGM or the like to the loudspeaker 12 in accordance with an instruction from the control unit 16.

The touch panel 11a is a rectangular thin layer element and constructed by covering an array of linear pressure-sensitive elements made of a transparent material vertically and horizontally arranged at specified intervals by a transparent cover, and is adhered to the outer surface of a display screen (Braun tube in the case where the monitor 11 is a CRT) of the monitor 11 for displaying images. A known touch panel can be used as the touch panel 11a. The touch panel 11a is capable of judging which button has been pressed to instruct based on the address of the button urging the selection or the like displayed

on the screen of the monitor 11 and the pressed position.

Mahjong tile objects, background images, various screen images and the like are stored in the ROM 163. Each of the mahjong tile objects and the like is comprised of a necessary number of polygons so as to enable the three-dimensional imaging. The imaging processor 111 performs a calculation for the conversion from positions in a three-dimensional space to those in a simulated three-dimensional space, a light source calculation and other calculations in accordance with an imaging instruction from the CPU 161, and writes an image data to be imaged in the video RAM, for example, writes (adheres) texture data in (to) an area of the video RAM designated by polygons based on the calculation results.

Here, a relationship between the operation of the CPU 161 and that of the imaging processor 111 is described. The CPU 161 reads image data, sound data, control program data and game program data from the ROM 163 in accordance with an operating system (OS) stored in the ROM 163 which is built in or detachably mountable from the outside. Part or all of the read image data, sound data, control program data, etc. are saved in the RAM 162. Thereafter, the CPU 161 performs processes in accordance with the control program and various data (image data including polygons and textures of objects to be displayed and other character images, and sound data) saved in the RAM 162 and the detection signals and the like from the detectors.

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Various data stored which are stored in the ROM 163 and are storable in a detachably mountable recording medium may be made readable by a driver such as a hard disk drive, an optical disk drive, a flexible disk drive, a silicon disk drive, or a cassette medium reader. In such a case, the recording medium is, for example, a hard disk, an optical disk, a flexible disk, a CD, a DVD or a semiconductor memory.

The network communicator 18 is for transmitting and receiving various pieces of event information occurring during the execution of the mahjong game to and from the central server 3 via the network, the shop server 2, etc.

Here, an individual authentication method in each client terminal unit 1 is described. The individual authentication is for confirming that an actual player is identical with a player recognized by the client terminal unit 1 (or central server 3 connected via the network communicator 18 and the network). In the case where a player plays using the client terminal unit 1 for the first time, user ID data (identification information) is read from an inserted individual card by the card reader 13, an image of the player's fingerprint is picked up by the CCD camera 14a of the fingerprint authenticating device 14, and characteristic data necessary for the individual authentication is extracted by the fingerprint authenticating device 14 using the fingerprint information from the CCD camera 14a. The user ID data and the characteristic data are transmitted to the shop

server 2 connected via the network communicator 18 and the network and transmitted from the shop server 2 to the central server 3 via the communication line to be stored in the player information storage 362a to be described later. In this way, the player is registered in the central server 3.

In the case where a player already registered in the central server 3 plays using the client terminal unit 1, user ID data is read from an inserted individual card by the card reader 13, an image of the player's fingerprint is picked up by the CCD camera 14a of the fingerprint authenticating device 14, and characteristic data necessary for the individual authentication is extracted by the fingerprint authenticating device 14 using the fingerprint information from the CCD camera 14a. Then, the user ID data and the characteristic data are transmitted to the central server 3 connected via the network communicator 18, the network, the shop server 2 and the like, and the central server 3 judges as to whether or not the characteristic data corresponding to the user ID stored in the player information storage 362a to be described is identical with the received characteristic data. The player is permitted to play if the judgment result is affirmative while being refused to play if the judgment result is negative (for example, an error message is displayed on the monitor 11 of the client terminal unit 1 to urge the player to conduct the fingerprint authentication again).

FIG. 4 is one example of a functional construction diagram showing the control unit 16 of the client terminal unit 1. The CPU 161 of the control unit 16 is provided with a game progress controlling section 161a (corresponding to part of proceeding means) for receiving an operation from the player and controlling the progress of the game in accordance with an instruction from the central server 3 and the mahjong rules, an item assigning section 161b for virtually assigning a specified number of items to the player satisfying specific conditions, an result judging section 161c for judging the ranking of the player in the game every time the game is ended, an item transferring section 161d for transferring a specified number of ones of the items virtually possessed by one player to other players based on the judgment result of the result judging section 161c, a rank determining section 161e for determining a rank representing the level of the player's strength in the game based on the number of the items the player virtually possesses, a timer 161f (corresponding to part of the proceeding means) for measuring time, an extension request receiving section 161g (corresponding to part of the proceeding means) for receiving an operation of requiring the extension of a tile discarding time to be described later from the player, and an extension processing section 161g (corresponding to part of the proceeding means) for processing the extension of the tile discarding time.

The RAM 162 of the control unit 16 is provided with a rank

storage 162a (corresponding to part of rank storage means) for
storing the number of items and the rank in correspondence with
the identification information of the player, and a discarding-
time storage (corresponding to part of tile discarding time
storage means) for storing the tile discarding time TA to be
described later for each rank.

The game progress controlling section 161a is for receiving
an operation from the player by means of the touch panel 11a and
the like and controlling the progress of the game in accordance
with instructions from the central server 3 and the shop server
2 and the mahjong rules. The game progress controlling section
161a also forces the draw of a tile upon the lapse of the tile
discarding time TA which is a time limit from the draw of one
tile to the discard of one tile measured by the timer 161f.

The item assigning section 161b virtually assigns items
(here, items called "dragon chips") to the player satisfying the
specified conditions, increases or decreases points the player
virtually possesses, and stores the item number and the points
in the rank storage 162a in correspondence with the
identification information of the player. It should be noted
that the points the player virtually possesses also one kind of
items similar to the dragon chips.

Here, a method for increasing and decreasing the points and
the item assigning conditions are specifically described. A
specified number of points are added to the points the player

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virtually possesses when the player completed a winning hand during the game, whereas a specified number of points are subtracted when the player discarded a tile to let the other player complete a winning hand. For example, if the player completed a winning hand, points are added at a ratio of 20 points to 1000 marks that have been won. If the player discarded the tile to let the other player complete a winning hand, points are subtracted at a ratio of 20 points to 1000 marks that have been lost. If the points reach 1000 or more, three items called dragon chips are virtually given.

The result judging section 161c judges the ranking in the descending order of the marks the players virtually possess in the form of chips. At the start of the game, all the players virtually possess the same marks (initial marks) in the form of chips. The initial marks are, for example, 20000 marks.

The item transferring section 161d is for transferring specified numbers of items among the players out of those virtually possessed by the players based on the judgment result of the result judging section 161b after the ranking was judged by the result judging section 161c. Specifically, one dragon chip is transferred from the player of the fourth place to the player of the first place. The item transferring section 161d renewably stores the number of the dragon chips in the rank storage 162a.

The rank determining section 161e is for determining the

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rank representing the level of the player in the game based on the number of the items the player virtually possesses. A specific rank determining method is described below with reference to FIGS. 5.

FIG. 5A is one example of a table showing assigning conditions for ranks (tenth Kyu to first Kyu) representing the level of the player's strength and determined by the rank determining section 161e. A player playing this game for the first time is assumed to have a rank of tenth Kyu. For example, the rank is assumed to be the ninth Kyu in a point range of 100 to 199. As the points are increased (or decreased), the rank is raised (or lowered). The rank is assumed to be the first Kyu in a point range of 900 to 999. The rank is assumed to be the first Dan when the points become 1000 or more.

FIG. 5B is one example of a table showing assigning conditions for ranks (first Dan to eighth Dan) representing the level of the player's strength and determined by the rank determining section 161e. As described above, the item assigning section 161b virtually assigns three items called dragon chips to the player whose points become 1000 or more. As a result of a transfer by the item transferring section 161d of dragon chips virtually possessed by the players among the players based on the judgment result by the result judging section 161c, the numbers of the dragon chips virtually possessed by the players change and are renewably stored in the

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rank storage 162a. For example, the rank is assumed to be the second Dan when the number of the dragon chips is 5 or more, but below 10. As the number of the dragon chips is increased (or decreased), the rank is raised (or lowered). The rank is assumed to be the eighth Dan when the number of the dragon chips becomes 46 or more. It should be noted that, if a player of first Dan comes to possess no dragon chip as a result of a game, he is lowered to first Kyu.

Specifically, the rank determining section 161e determines a corresponding rank based on the points determined by the item assigning section 161b and the number of items determined by the item assigning section 161b and the item transferring sections 161d with reference to the rank tables shown in FIGS. 5A and 5B.

The timer 161f is for measuring the remaining time of the tile discarding time TA that is a time limit from the draw of one tile to the discard of one tile. The game progress controlling section 161a receives the entry of the selection of the tile to be discarded from the player by means of the touch panel 11a only within this tile discharging period TA. Here, the timer 161f sets the tile discharging period TA by reading the rank of the player from the rank storage 162a and the tile discarding time TA corresponding to the read rank from the discarding-time storage 162b.

The extension request receiving section 161g receives the depression of a later-described long-thought button (see FIG.

18) displayed on the monitor 11 as a discharging-period extension request signal based on a signal from the touch panel 11a.

The extension processing section 161h judges whether or not the depression (reception of the discarding-time extension request signal by the extension request receiving section 161g) of the long-thought button of the touch panel 11a by the player has been received at least within the tile discarding time TA (here, within 10 seconds after the draw of one tile) and whether or not the number of extensions of the tile discarding time TA does not exceed a predetermined number (here, 0 time) (the tile discarding time TA has not been extended yet), and permits the reception of the extension request of the tile discarding time TA if the above restricting conditions are satisfied. In the case of permitting the reception of the extension request, the extension processing section 161h adds a specified extra time ΔT (e.g. five seconds) to the remaining time of the tile discarding time TA measured by the timer 161f.

The rank storage 162a is for storing the number of the items and the rank in correspondence with the identification information of the player. Here, the number of the items and the rank corresponding to the identification information of the player are read from the player information storage 362b of the central server 3 to be described later and stored in the rank storage 162a by the game progress controlling section 161a at

the start of the game.

The discarding-time storage 162b is for storing the tile discarding time TA for each rank. Here, the tile discarding time TA set for each rank is read from a discarding-time storage 362c of the central server 3 to be described later and stored in the discarding-time storage 162b by the game progress controlling section 161a at the start of the game.

FIG. 6 is one example of a table showing the tile discarding times TA set for the respective ranks and stored in the discarding-time storage 162b. The higher the rank is, the shorter the tile discarding time TA is set. As shown in FIG. 6, the tile discarding time TA is, for example, set to be 5.5 seconds for tenth Kyu, 5.0 seconds for third Kyu, 4.5 seconds for third Dan and 4.0 seconds for seventh Dan.

FIG. 7 is a perspective view showing the external appearance of one embodiment of the shop server 2. The shop server 2 is provided with a monitor 21 for displaying game screens and the like, a loudspeaker 22 for outputting sounds, and an individual-card vending machine 25 for selling an individual card upon receiving coins inserted by a player.

The monitor 21 has a plurality of (two in this example) CRTs for the purpose of largely displaying images. The two CRTs are disposed such that longer sides of a substantially rectangular screen displaying portions for displaying the respective images abut on each other, and image signals are so

controlled as to display one image on the two image displaying portions.

The loudspeaker 22 is for outputting specified messages and BGMs. The individual-card vending machine 25 includes a coin receiving device 24 for receiving coins inserted by the player, and a card discharging portion 23 for discharging an individual card. It should be noted that the coin receiving device 24 is equipped with a coin outlet (not shown) for discharging a coin if the inserted coin is a defective coin or the like.

A control unit 26 (see FIG. 8) comprised of a microcomputer and the like for receiving detection signals from the respective devices and outputting control signals to the respective devices is installed at a specified position of the shop server 2.

FIG. 8 is a hardware construction diagram showing one embodiment of the shop server 2. The control unit 26 is for controlling the overall operation of the shop server 2 and is provided with an information processor (CPU) 261, a RAM 262 for temporarily saving information and the like obtained during processes, and a ROM 263 storing specified image information and the like.

An image processor 211 is for causing the monitor 21 to display a necessary image in accordance with an image display instruction from the control unit 26 and includes a video RAM and the like. A sound reproducing device 221 is for outputting a specified message or a BGM in accordance with an instruction

from the control unit 26.

Various data which are stored in the ROM 263 and are storable in a detachably mountable recording medium may be made readable by a driver such as a hard disk drive, an optical disk drive, a flexible disk drive, a silicon disk drive, or a cassette medium reader. In such a case, the recording medium is, for example, a hard disk, an optical disk, a flexible disk, a CD, a DVD or a semiconductor memory.

A network communicator 28 is for transmitting and receiving various data to and from the central server 3 and the other shop servers 2 via a network such as WWW (world-wide web). An interface 1a is for transferring data among a plurality of (e.g. eight) client terminal units 1 connected with the shop server 2.

FIG. 9 is one example of a functional construction diagram showing the control unit 26 of the shop server 2. The RAM 262 of the control unit 26 is provided with a table storage 262a for storing table information generated by a combination generating section 361b of the central server 3 to be described later and relating to mahjong tables on which the respective client terminal units 1 virtually play mahjong, and a status storage 262b for storing information relating to the progress status of the game for each mahjong table where the respective client terminal units 1 virtually play mahjong. The CPU 261 includes a status updating section 261a for updating the progress statuses of the games stored in the status storage 262b by communicating

with the client terminal units 1 and the other shop servers 2 in accordance with the table information stored in the table storage 262a.

Here, a case where client terminal units a1, a3 connected with a shop server A via special lines 5 and a client terminal unit b8 connected with a shop server B via a special line 5, and a client terminal unit c2 connected with a shop server C via a special line 5 play a game in the same game space as shown in FIG. 10 is specifically described for contents of the table information stored in the table storage 262a and those of the process of the status updating section 261a with reference to FIGS. 11 and 12.

Here is described a case where the client terminal units a1, a3, b8 and c2 are virtually combined to play a game at the same table (in the same game space) by the combination generating section 361b of the central server 3. The combination generating section 361b of the central server 3 sets the shop server 2 (here, shop server A) connected with the client terminal unit 1 (here, client terminal unit a1) received at an earliest timing as a server (here, referred to as a "master server") fulfilling the central role in the transmission and reception of information among the shop servers 2, sets the shop servers 2 (here, shop servers B, C) connected with the other client terminal units 1 via the special lines 5 as servers (here, referred to as "slave servers") fulfilling subordinate

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roles in the transmission and reception of information among the shop servers 2, and transmits the result of the setting to the respective shop servers 2. Each shop server 2 stores the received result of setting the master server and the slave servers in the table storage 262a.

FIG. 11 is one example of a table showing table information of a table constituted by the client terminal units a1, a3, b8 and c2 shown in FIG. 10. From the left, columns of this table are table numbers TN that are identification numbers of tables assigned to the respective tables in accordance with a specified rule when the tables are generated by the combination generating section 361b of the central server 3; a receiving order RN that is an order of allotment to each table by the combination generating section 361b of the central server 3; client symbols CN that are identification information of the client terminal units 1 (here, reference numeral is client symbol CN for the sake of the description); shop server symbols SN that are identification information of the shop servers 2 (here, reference numeral is client symbol CN for the sake of the description); master/slave distinctions MS representing whether the shop server 2 functions as a master server or a slave server; and player distinctions PC representing the distinction of players operating the client terminal units 1. These pieces of information are stored as the table information.

In the player distinction PC is stored "PLAYER" if the

client terminal unit 1 is operated by a human player; "SIMULATED PLAYER" if the client terminal unit 1 is operated in a simulated manner by a simulation signal generating section 261d to be described; and "CPU PLAYER" if the client terminal unit 1 is operated by a CPU player. It should be noted that the table information is erased from the table storage 262a if the player distinctions PC of four players at the table are either "SIMULATED PLAYER" or "CPU PLAYER".

It can be known from the table information shown in FIG. 11 that a table with the table number 1 is constituted by the client terminal units a1, a3, b8 and c2, that the client terminal units a1, a3 are connected with the shop server A via the special lines 5, that the shop server A functions as a master server while the shop servers B and C function as salve servers, and that the client terminal units a1, a3, b8 and c2 are operated by human players. It should be noted that the table information with table number "1" shown in FIG. 11 is stored in the table storages 262a of the shop servers A, B and C.

FIGS. 12 are examples of tables showing contents of processes for transmitting and receiving operation signals by the status updating sections 261a of the shop servers A, B, C. FIGS. 12A, 12B and 12C are tables showing the contents of the processes by the status updating sections 261a of the shop servers A, B, C, respectively. In the left column of each table

are written the client symbols CN of the client terminal units 1 as transmitting ends of operation signals received by the shop server 2 (shop server A, B or C) and the shop server symbol SN of the shop servers 2 by way of which the operation signals are received by the shop servers 2. In the right column of each table are written the client symbols CN of the client terminal units 1 as receiving ends of operation signals transmitted from the shop server 2 (shop server A, B or C) and the shop server symbols SN of the shop servers 2 by way of which the operation signals are received by the client terminal units 1. The status updating sections 261a of the shop servers A, B and C update the information in the status storages 262b upon receiving the operation signals from the client terminal units a1, a3, b8 and c2.

The status updating section 261a of the shop server A receives the operation signal from the client terminal unit a1 and transmits it to the client terminal unit a3 and the shop servers B and C as shown in the second row of the table of FIG. 12A from above. The status updating section 261a of the shop server B receives the operation signal from the client terminal unit a1 via the shop server A and transmits it to the client terminal unit b8 as shown in the second row of the table of FIG. 12B from above. The status updating section 261a of the shop server C receives the operation signal from the client terminal unit a1 via the shop server A and transmits it to the client

terminal unit c2 as shown in the second row of the table of FIG. 12C from above.

Similarly, the status updating section 261a of the shop server A receives the operation signal from the client terminal unit a3 and transmits it to the client terminal unit a1 and the shop servers B and C as shown in the third row of the table of FIG. 12A from above. The status updating section 261a of the shop server B receives the operation signal from the client terminal unit a3 via the shop server A and transmits it to the client terminal unit b8 as shown in the third row of the table of FIG. 12B from above. The status updating section 261a of the shop server C receives the operation signal from the client terminal unit a3 via the shop server A and transmits it to the client terminal unit c2 as shown in the third row of the table of FIG. 12C from above.

The status updating section 261a of the shop server B receives the operation signal from the client terminal unit b8 and transmits it to the shop server A as shown in the fourth row of the table of FIG. 12B from above. The status updating section 261a of the shop server A receives the operation signal from the client terminal unit b8 via the shop server B and transmits it to the client terminal units a1, a3 and the shop server C as shown in the fourth row of the table of FIG. 12C from above. The status updating section 261a of the shop server C receives the operation signal from the client terminal unit b8

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via the shop servers B and A and transmits it to the client terminal unit c2 as shown in the fourth row of the table of FIG. 12C from above.

Similarly, the status updating section 261a of the shop server C receives the operation signal from the client terminal unit c2 and transmits it to the shop server A as shown in the fifth row of the table of FIG. 12C from above. The status updating section 261a of the shop server A receives the operation signal from the client terminal unit c2 via the shop server C and transmits it to the client terminal units a1, a3 and the shop server B as shown in the fifth row of the table of FIG. 12A from above. The status updating section 261a of the shop server B receives the operation signal from the client terminal unit c2 via the shop servers C and A and transmits it to the client terminal unit b8 as shown in the fifth row of the table of FIG. 12B from above.

In this way, every time the status updating section 261a receives the operation signal from the client terminal units a1, a3, b8 and c2 through the transfer of the operation signals from the client terminal units a1, a3, b8 and c2 among the shop servers A, B and C, the information in the status storage 262b is updated. Thus, the client terminal units a1, a3, b8 and c2 can easily control the temporal synchronization in the progress of the game (the coincidence of the game progress statuses) among the client terminal units a1, a3, b8 and c2 by proceeding

with the game using the progress information stored in the status storage 262b.

Specifically, the master server receives the operation information from the client terminal units 1 connected therewith via the special lines 5 and transmits it to all the other client terminal units 1, and receives the operation signals from the client terminal unit 1 connected with the slave servers via the special line 5 via the slave server and transmits them to all the other client terminal units 1. Further, each slave server receives the operation information from the client terminal units 1 connected therewith via the special lines 5 and transmits it to the master server, and receives the operation signals from all the other client terminal units 1 via the master server and transmits them to the client terminal unit 1 connected therewith via the special lines 5.

FIG. 13 is a hardware construction diagram showing one embodiment of the central server 3. A control unit 36 is for controlling the overall operation of the central server 3, and is provided with an information processor (CPU) 361, a RAM 362 for temporarily saving information and the like obtained during processes, and a ROM 363 storing specified image information and the like.

Various data which are stored in the ROM 363 and are storable in a detachably mountable recording medium may be made readable by a driver such as a hard disk drive, an optical disk

drive, a flexible disk drive, a silicon disk drive, or a cassette medium reader. In such a case, the recording medium is, for example, a hard disk, an optical disk, a flexible disk, a CD, a DVD or a semiconductor memory.

The network communicator 38 is for transmitting and receiving various data to and from a plurality of shop servers 2 via a network such as WWW (world-wide web). The game progress administering program of the present invention is stored in the ROM 363 and loaded into the RAM 362 and the game progress administering program in the RAM 263 is successively executed by the CPU 361 to realize the respective functions.

FIG. 14 is one example of a functional construction diagram showing the control unit 36 of the central server 3. The CPU 361 of the control unit 36 is provided with a participation receiving section 361a (corresponding to participation receiving means) for receiving the participation in the competition game from the client terminal units 1, the combination generating section 361b (corresponding to combination generating means) for fitting participating terminal units 1r, which are the client terminal units 1 whose participation was received by the participating terminal receiving section 361a, in combinations of the competition game tournament, a competition starting section 361c (corresponding to competition starting means) for allotting one game space (virtual table) to one combination in accordance with combinations generated by the combination

generating means 361b and instructing the participating terminal units 1r to start the competition games in the respective rounds, and a competition ending section 361d (corresponding to competition ending means) for instructing the participating terminal units 1r to end the competitions in the respective rounds and determining winning participating terminal units 1r in accordance with the dominance in the progress status of the competition games when the competitions were ended.

The CPU 361 of the control unit 36 is further provided with a participating terminal number counting section 361e (corresponding to participating terminal number counting means) for counting a participating terminal number RN that is the number of the participating terminal units 1r, a combination interval setting section 361f (corresponding to combination interval setting means) for setting a reset time LT that is a longest time upon the lapse of which the participating terminal number RN is reset to 0, and a winner number setting section 361g (corresponding to winner number setting means) for setting the number of winners in one combination made up of a specified number of (here, four) competitors for each round.

The RAM 362 of the control unit 36 includes a combination storage 362a for storing combination information of the tournament generated by the combination generating section 361b, the player information storage 362b (corresponding to part of rank storage means) for storing the characteristic data, the

number of items, the rank and the like of each player in correspondence with the identification information (user ID data) of this player, and the discarding-time storage 362c (corresponding to part of discarding-time storage means) for storing the tile discarding time TA for each rank.

The participation receiving section 361a receives the participation in the competition game from the client terminal units 1 via the shop servers 2, specifically receives the identification information and the fingerprint characteristic data of the players necessary for the individual authentication from the client terminal units 1 and conducts the individual authentication.

The combination generating section 361b fits the participating terminal units 1r, which are the client terminal units 1 whose participation was received by the participation receiving section 361a, in the combinations of the competition game tournament in accordance with the specified rule, stores the result of fitting in the combination of the competition game tournament in the combination storage 362a, and transmits the combination information (here, table information) to the shop servers 2 to let it stored in the table storages 262a.

FIG. 15 is one example of a diagram showing the rule of fitting the participating terminal units 1r in the combinations of the tournament. As described above, the tournament here is the one with three rounds and comprised of frames A1 to P4 in

which sixty four players (sixty four participating terminal units 1r) are fitted. As shown in FIG. 15, in the first round, the competition game is conducted in a total of sixteen groups (at sixteen tables A to P) including group A made up of four players A1 to A4, group B made up of four players B1 to B4, …, group P made up of four players P1 to P4. In the second round, the competition game is conducted at a total of four tables Q to T (for example, table Q is constituted by the winners at the tables A to D) among sixteen players, who were in the first place (winners) in the first round. In the final round, the competition game is conducted at one table constituted by four winners in the second round.

At the left and right ends of FIG. 15 are written order numbers GN representing the order of fitting the players in the combinations of the tournament. Specifically, sixteen players are fitted in the frames in the order of A1, M1, I1, E1, C1, O1, K1, G1, B1, N1, J1, F1, D1, P1, L1 and H1; next sixteen players are fitted in the same order of the tables (tables A, M, I, …); and remaining thirty two players are similarly fitted. In this way, the combination generating section 361b fits the participating terminal units 1r in the combinations of the competition game tournament so that the numbers of the participating terminal units 1r fitted in the respective combinations (tables A to P) of the competition game tournament substantially coincide.

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The functional construction diagram shown in FIG. 14 is described again. The combination generating section 361b starts the process of fitting the participating terminal units 1r in the combinations of the competition game tournament again from a timing at which the participating terminal number RN is reset by the participating terminal number counting section 361e. In other words, the process of fitting the participating terminal units 1r in the combinations of the competition game tournament is carried out again if the sixty four participants in the tournament have been fitted or the reset time LT (e.g. 5 seconds) has lapsed after the start of the process of fitting the participating terminal units 1r in the tournament. This process of fitting the participating terminal units 1r in the combinations is repeatedly carried out.

The combination generating section 361b further allots the game terminal units 1 to be virtually receiving the operations the CPU players as lacking participating terminal units 1r if the participating terminal number RN falls short of a maximum participating terminal number RNM (here, sixty four) upon the lapse of the reset time LT. For example, if the participating terminal number RN is forty upon the lapse of the reset time LT, the combination generating section 361b allots the game terminal units 1 to be virtually operated by the CPU players in the remaining twenty four (= 64-40) frames.

The competition starting section 361c instructs the

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participating terminal units 1r to start the competition games in each round by allotting one game space to one combination in accordance with the combinations generated by the combination generating section 361b. The competition starting section 361c instructs the participating terminal units 1r to start the competition game at a timing at which the participating terminal number RN is reset by the participating terminal number counting section 361e.

Specifically, the competition starting section 361c instructs the participating terminal units 1r to start the competition games at a timing at which the participating terminal number RN reaches the maximum participating terminal number RNM (here, sixty four) or at a timing at which the client terminal units 1 to be virtually operated by the CPU players are allotted as the lacking participating terminal units 1r (at a timing at which the participating terminal units 1r or the client terminal units 1 to be operated by the CPU players are allotted as sixty four client terminal units constituting the tournament) if the participating terminal number RN falls short of the maximum participating terminal number RNM upon the lapse of the reset time LT.

The competition ending section 361d instructs the participating terminal units 1r to end the competition in each round in accordance with a time limit TL (here, ten minutes) for a competition time set beforehand for the respective rounds

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(first and second rounds) up to the semifinal, and determines the winning participating terminal units 1r based on the dominance in the progress statuses of the competition games when the competitions were ended.

Here, the dominance in the status of the competition game is judged by the scores (scores represented by chips virtually possessed by the players) at the end of the competition, and a number of winners set by the winner number setting section 361g are determined in the descending order of the scores. Here is described a case where the number set by the winner number setting section 361g is one. In other words, the competition ending section 361d determines the participating terminal unit 1r having the maximum score at the end of the competition as a winner.

Further, the competition ending section 361d sets no time limit for the competition time of the final round and instructs the participating terminal units 1r to end the competition when the progress status of the competition game reaches a predetermined status (here, when east round comprised of four winds with east as a prevailing wind was ended). In other words, the competition ending portion 361d lets the player having the maximum score upon the lapse of ten minutes as the time limit from the start of the competition advance to the next round in the first and second rounds while determining the player having the maximum score at the end of the east round as

a champion in the final round.

The participating terminal number counting section 361e counts the participating terminal number RN by incrementing the participating terminal number RN every time the participation in the competition game is received by the participation receiving section 361a, and resetting the participating terminal number RN to 0 when the participating terminal number RN reaches the maximum participating terminal number RNM (here, sixty four), which is a total number of the game terminal units constituting the competition game tournament or when the reset time LT (e.g. five seconds) has lapsed following a timing at which the participating terminal number RN changed from 0 to 1 (i.e. a timing at which the participation in the competition game was first received by the participation receiving section 361a after the participating terminal number RN had reset.

Specifically, the participating terminal number counting section 361e counts the number of the participating terminal units 1r whose participation in the competition game was received by the participation receiving section 361a and which have not been instructed to start the competition by the competition starting section 361c as the participating terminal number RN.

The combination interval setting section 361f sets the reset time LT, which is the longest time, upon the lapse of which the participating terminal number RN is reset to 0, in

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accordance with the date and hour. Here, the reset time LT is set to be shorter (30 seconds) on days (e.g. public holidays) when the participating terminal number RN increases at a faster rate (higher frequency of receiving the participation from players) while setting the reset time LT to be longer (60 seconds) at days (e.g. weekdays) when the participating terminal number RN increases at a slower rate (lower frequency of receiving the participation from players).

The winner number setting section 361g sets the number of winners in one combination made up of four competitors for each round. Here is described the case where the number of winners is one in all the first to third rounds. However, for example, in a competition game played by four players, the strategies of the players playing the competition game change in the case where the players in the first and second places advance to the next round and in the case where only the players in the first place advance to the next round. Thus, the competition game becomes more various and more interesting by setting the number of the players who advance to the next round.

The combination storage 362a is for storing the combinations of the competition game tournament generated by the combination generating section 361b. Specifically, the sixty four frames (A1 to P4) constituting the tournament shown in FIG. 15 are stored in correspondence with the identification information of the client terminal units 1 fitted in the frames.

The player information storage 362b is for storing the characteristic data, the number of items, the rank and the like of each player in correspondence with the identification information (user ID data) of the player. The number of items and the rank of each player are transmitted to the client terminal units 1 to be stored in the rank storage 162a at the start of the competition game, and those stored in the rank storages 162a are updated in accordance with the number of items and the rank determined by the item transferring section 161d and the rank determining section 161e at the end of the competition game and are transmitted to the central server 3 to be stored in the player information storage 362b.

The discarding-time storage 362c is for storing the tile discarding time TA for each rank, for example, in the form of a table as shown in FIG. 6. The tile discarding time TA for each rank stored in the discarding-time storage 362c is transmitted to the client terminal units 1 at the stat of the competition game to be stored in the discarding-time storage 162b.

FIG. 16 is a flow chart showing one example of processes carried out by the client terminal unit 1. Unless otherwise specified, the following processes are carried out by the game progress controlling section 161a. First, the individual information such as the user ID data is read from the inserted individual card by the card reader 13 (Step S101), and transmitted to the central server 3 (Step S103).

The participation receiving section 361a of the central server 3 receives the participation in the competition game, the combination generating section 361b fits the client terminal units 1 in the combinations of the tournament of the competition game, and the competition starting section 361c judges whether or not the instruction information as to the start of the competition has been received (Step S105). If no instruction information as to the start of the competition is received (NO in Step S105), this routine enters a standby state. If such instruction information is received (YES in Step S105), the player information including the identification information and rank of the competitors is received (Step S107).

Successively, the extension processing section 161h initializes the value of a flag S representing whether or not the long-thought button was pressed down during each round (Step S108). Here, if the value of the flag S is 0, it represents that the long-thought button was not pressed down during each round (a state where the request to extend the tile discarding time TA can be received). On the other hand, if this value is 1, it represents that the long-thought button was already pressed down during each round (a state where the request to extend the tile discarding time TA can be received).

Subsequently, the competition game is executed (Step S109), and judgment is made as to whether the instruction information to the effect of ending the competition game has been received

from the competition ending section 361d of the central server 3 (Step S111). If no such instruction information has been received (NO in Step S111), this routine returns to Step S109 and the competition game continues to be executed. If such instruction information has been received (YES in Step S111), the result judging section 161c judges the ranking, the item transferring section 161d transfers the dragon chips, the rank determining section 161e determines the ranks, and the updated numbers of items and ranks are stored in the rank storage 162a. Then, the scores, the ranks, and numbers of items of competitors are transmitted as game results to the central server 3 (Step S113).

The winner is determined by the competition ending section 361d of the central server 3, win-loss information r whether the competitor is a winner is received and judgment is made as to whether or not the win-loss information has been received (Step S115). If the win-loss information representing a loser has been received (NO in Step S115), this routine proceeds to Step S119. If the win-loss information representing a winner has been received (YES in S115), judgment is made as to whether or not the competition game was a final game (Step S117). If the competition game was not a final game (first or second round) (NO in Step S117), this routine returns to Step S107 and operations in Steps S107 to S115 are repeatedly carried out.

If the competition game was a final game (YES in Step S117)

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or the win-loss information representing a loser was received in Step S115 (NO in Step S115), whether or not the competition game continues to be played is judged by receiving an entry, e.g. by means of (Step S119). If it is judged to continue to play the competition game (YES in Step S119), this routine returns to Step S103 and operations in Steps S103 to S117 are repeatedly carried out. If it is judged not to continue to play the competition game (NO in Step S119), this routine is ended.

FIG. 17 is one example of a detailed flow chart showing the process of administering the tile discarding time TA in the competition process carried out in Step S109 of the flow chart shown in FIG. 16. First, whether or not any tile has been drawn is judged by means of the timer 161f (Step S201). If no tile is judged to have been drawn (NO in Step S201), this subroutine enters a standby state. If a tile is judged to have been drawn (YES in Step S201), the value of a counter Ts for counting the remaining time of the tile discarding time TA is set to an initial value T1 (= tile discarding time TA) by the timer 161f (Step S203).

Then, the extension processing section 161h judges whether or not the discard of the tile has been completed (Step S205). The subroutine returns if the tile is judged to have been discarded (YES in Step S205), whereas whether or not the value of the flag S representing the depression of the long-thought button during each round is 1 is judged (Step S207) if the tile

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is judged not to have been discarded (NO in Step S205). If the value of the flag S is judged to be 1 (YES in Step S207), this subroutine proceeds to Step S215. If the value of the flag S is judged not to be 1 (judged to be 0) (NO in Step S207), the extension processing 161h causes the monitor 11 to display the long-thought button (Step S209) and the extension request receiving section 161g judges whether or not the long-thought button has been pressed down (Step S212).

If the long-thought button is judged not to have been pressed down (NO in Step S211), this routine proceeds to Step S215. If the long-thought button is judged to have been pressed down (YES in Step S211), the extension processing section 161h sets the value of the flag S to 1 (Step S213) and the extra time △T is added to the value of the counter Ts (Step S214).

The timer 161f decrements the value of the counter Ts by 1 if the processes in Step S214 is completed, if the judgment result in Step S207 is affirmative or if the judgment result in Step S211 is negative. Then, whether or not the value of the counter Ts is equal to or below 0 is judged by means of the timer 161f (Step S217).

If the value of the counter Ts is judged to be above 0 (larger than 0) (NO in Step S217), this routine returns to Step S205 and processes of Steps S205 to S215 are repeatedly carried out. If the value of the counter Ts is judged to be equal to or below 0 (YES in Step S217), the game progress controlling

section 161a carries out the discard of the tile (Step S219) and this subroutine returns.

FIG. 18 is one example of a flow chart of processes carried out by the central server 3. First, the participating terminal number counting section 361e initializes the value of the participating terminal number RN to 0, and the combination interval setting section 361f initializes the value of the counter TM for counting the set reset time LT to 0 (Step S301). Subsequently, whether or not the participation in the competition game has been received from any client terminal unit 1 is judged (Step S303).

If no participation in the competition game has been received (NO in Step S303), the participating terminal number counting section 361e increments the value of the counter TM only by one (Step S305) and judges whether or not the value of the counter TM has been equal to or above the reset time LT (Step S307). This routine returns to Step S303 if this value is judged not to be equal to or larger than the reset time LT (below the reset time LT) (NO in Step S307), whereas this routine proceeds to Step S319 if this value is judged to be equal to or larger than the reset time LT (YES in Step S307).

If the participation in the competition game has been received (YES in Step S303), the combination generating section 361b fits the participating terminal unit 1r as the client terminal unit 1 whose participation was received by the

participation receiving section 361a in Step S303 in the combination of the competition game tournament (Step S309). The participating terminal number RN is incremented only by 1 by the participating terminal number counting section 361e (Step S311), and whether or not the participating terminal number RN is equal to or larger than the maximum participating terminal number RNM is judged (Step S313).

If the participating terminal number RN is judged not to be equal to or larger than the maximum participating terminal number RNM (below the maximum participating terminal number RNM) (NO in Step S313), the participating terminal number counting section 361e increments the value of the counter TM only by one (Step S315) and judges whether or not the value of the counter TM is equal to or larger than the reset time LT (Step S315). This routine returns to Step S303 if this value is judged not to be equal to or larger than the reset time LT (below the reset time LT) (NO in Step S317), whereas this routine proceeds to Step S319 if this value is judged to be equal to or larger than the reset time LT (YES in Step S317).

If the judgment result in Step S307 is affirmative or if the judgment result in Step S317 is affirmative, the combination generating section 361b allots game terminal unit(s) 1 to be virtually operated by CPU player(s) as lacking participating terminal unit(s) 1r (Step S319) and this routine proceeds to Step S321.

If the participating terminal number RN is judged to be equal to or larger than the maximum participating terminal number RNM (YES in Step S313) or if the process in Step S319 is completed, the competition starting section 361c instructs the participating terminal units 1r to start the first round of the competition games (Step S321). Then, the competition ending section 361d judges whether or not a period of 10 minutes as the time limit TL for the competition time in the first round has lapsed (Step S323). If the period of 10 minutes is judged not to have lapsed yet (NO in Step S323), this routine enters a standby state. If the period of 10 minutes is judged to have lapsed (YES in Step S323), the competition ending section 361d instructs the participating terminal units 1r to end the competitions in the first round (Step S325).

Subsequently, the competition ending section 361d receives the game results of the competitions in the first round from the participating terminal units 1r (Step S327), determines the winning participating terminal units 1r according to the dominance in the progress statuses of the competition games when the competitions were ended, and transmits the win-loss information to the participating terminal units 1r (Step S329). Then, the combination generating section 361b determines the combinations of the winners of the first round in the second round and the competition starting section 361c instructs the participating terminal units 1r to start the competition games

in the second round (Step S331). Subsequently, the competition
ending section 361d judges whether or not a period of 10 minutes
as the time limit TL for the competition time of the first round
has lapsed is judged (Step S333). If the period of 10 minutes
is judged not to have lapsed yet (NO in Step S333), this routine
enters the standby state. If the period of 10 minutes is judged
to have lapsed (YES in Step S333), the competition ending
section 361d instructs the participating terminal units 1r to
end the competitions in the second round (Step S335).

Subsequently, the competition ending section 361d receives
the game results of the competitions in the second round from
the participating terminal units 1r (Step S337), determines the
winning participating terminal units 1r according to the
dominance in the progress statuses of the competition games when
the competitions were ended, and transmits the win-loss
information to the participating terminal units 1r (Step S339).
Then, the combination generating section 361b determines the
combination of the winners of the second round in the third
round (final round) and the competition starting section 361c
instructs the participating terminal units 1r to start the
competition game in the final round (Step S341).

Subsequently, the competition ending section 361d judges
whether or not the game result has been received from the
participating terminal units 1r upon the end of the competition
game (Step S343). If no game result is judged to have been

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received (NO in Step S343), this routine enters the standby state. If the game result is judged to have been received (YES in Step S343), the competition ending section 361d determines the winning participating terminal unit 1r using the game result and transmits the win-loss information to the participating terminal units 1r (Step S345), thereby ending this routine.

FIG. 19 is one example of a diagram showing a tournament formation status displaying screen displayed on the monitors 11 of the client terminal units 1 in Step S105 of the flow chart shown in FIG. 16. On a tournament formation status displaying screen 600 are displayed a round number displaying portion 601 arranged substantially in the center of the screen and adapted to make a display to the effect of starting the first round upon completing the combinations of the tournament, a remaining time displaying portion 602 arranged above the round number displaying portion 601 for displaying a remaining time of a participation receiving time in the competition game (i.e. the remaining time of the reset time LT), a frame displaying portion 603 arranged at the left and right sides of the round number displaying portion 601 and adapted to display the frames forming the competition game tournament, and a player information displaying portion 604 fitted in a frame 603a at the left end of the frame displaying portion 603 and adapted to display the player information.

"We are receiving participation 60" is displayed in the

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remaining time displaying portion 602, from which it can be known that the remaining time of the receiving time is 60 seconds. "(*Genbu* 2nd Dan) Anderson" is displayed in the player information displaying portion 604, from which it can be known that a player whose name is "Anderson" and who has a rank of "2nd Dan" is fitted in the frame 603a.

FIG. 20 is another example of a diagram showing the tournament formation status displaying screen displayed on the monitors 11 of the client terminal units 1 in Step S105 of the flow chart shown in FIG. 16. On a tournament formation status displaying screen 610 are displayed a round number displaying portion 611 arranged substantially in the center of the screen and adapted to make a display to the effect of starting the first round upon completing the combinations of the tournament, a remaining time displaying portion 612 arranged above the round number displaying portion 611 for displaying a remaining time of a participation receiving time in the competition game (i.e. the remaining time of the reset time LT), a frame displaying portion 613 arranged at the left and right sides of the round number displaying portion 611 and adapted to display the frames forming the competition game tournament, and player information displaying portions 614 fitted in left frames 613a, 613c, 613e and 613g and right frames 613j, 613k, 613m and 613o of the frame displaying portion 613 and adapted to display the player information.

"We are receiving participation 47" is displayed in the remaining time displaying portion 612, from which it can be known that the remaining time of the receiving time is 47 seconds. The ranks and names of players fitted in the respective frames are displayed in the player information displaying portions 614, from which it can be known that players having the displayed ranks and names are fitted in the frames. Here, the players are allotted to the eight of sixty four frames. The players can confirm the status of determining the combinations by successively allotting the players to the sixty four frames of the tournament by means of the tournament formation status displaying screen 600, 610.

FIG. 21 is one example of a diagram showing a competition screen displayed on the monitors 11 of the client terminal units 1 in Step S109 of the flow chart shown in FIG. 16. At the bottom of a competition screen 620 are displayed a Reach button PBB to be pressed down in the case of calling "Reach", a Chi button PBC to be pressed down in the case of calling "Chi", a Pon button PBD to be pressed down in the case of calling "Pon", a Kong button PBE to be pressed down in the case of calling "Kong", a completion button PBF to be pressed down in the case of declaring the completion of a wining hand, an advance button PBG to be pressed down in the case of advancing to the next player, and a call changing button PBH to be pressed down in the case of changing the selection as to whether any call is to be

made to tiles discarded by the other players.

In the case where all the competitors at this table select that "no call is made to tiles discarded by the other players" by means of the call changing button PBH, a tile is drawn for the next player immediately after one player discards a tile. In the case where a certain player selects that "call is made to tiles discarded by the other players" by means of the call changing button PBH, when one of the other players discards a tile callable by this player, a discarded tile blinks to display that this tile is a callable tile for this player and this player makes a call by pressing any one of the Chi button PBC, the Pon button PBD and the Kong button PBE or advances to the next player by pressing the advance button PBG or no tile is drawn for the next player until a specified time (e.g. 5 seconds) lapses.

Further, hand objects 621 representing the hand of the player is displayed in a standing manner at the bottom side of the competition screen 620, and competitor hand objects 623 representing the hands of the competitors are displayed in a standing manner at the upper, left and right sides of the competition screen 620. Further, a wall object 624 representing a wall including a "Dora" tile is displayed substantially in the center of the competition screen 620, and discarded-tile objects 622 representing the discarded tiles are displayed around the wall object 624. Since a kind displaying surface representing

the kinds of the hand objects 621 are faced toward a camera viewpoint, the player can confirm the kind of the hand objects 621 upon seeing the competition screen 620. For example, the kind of the second hand object from the left is "Character tile 5".

Further, appellation displaying portions NP for displaying the appellations of the respective players in the game is displayed between the wall object 624 and the discarded-tile objects 622 on the competition screen 620, and a wind mark PRM showing the prevailing wind is displayed below the appellation displaying portion NP of the competitor as the next wind. It can be, for example, known from the appellation displaying portions NP that the appellation of the player is "Suzakuoh", that of the previous wind of the player is "Nanachan". It can be also known that the prevailing wind is east upon seeing a character "East" written in the wind mark PRM.

In addition, a long-thought button TOB to be pressed for the extension of the remaining time permitted to the player from the draw of a tile to discard of a tile is displayed at the right side of the competition screen 620, and a remaining time displaying portion RT is displayed above a drawn-tile object 625 representing a drawn tile object is displayed at the right lower side of the competition screen 620. The remaining time displaying portion RT is displayed at a position relating to the hand of the player, and a remaining time of 5 seconds up to the

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decision of the player on the tile to be discarded is numerically displayed. The display of the remaining time changes from "5", to "4", to "3", to "2", to "1", and to "0". The long-thought button TOB enables the extension request to be received only during the period from the draw of the tile to the completion of the discard of the tile.

A remaining time displaying portion 626 for displaying the remaining time of the competition game is displayed at the upper left corner of the competition screen 620. Here, "07:59:32" is displayed in the remaining time displaying portion 626, from which it can be known that the remaining time is 7 minutes and 39 seconds and a remainder. Since the remaining time of the competition game is displayed in the remaining time displaying portion 626, the player can contrive a strategy to advance to the next round in accordance with the remaining time. For example, if the remaining time is within 1 minute and the player is currently in the first place, the player can plot his strategy to go out faster with fewer score or to pay careful attention not to discard a tile that lets the other player complete a winning hand.

FIG. 22 is one example of a diagram showing a winner display screen displayed on the monitors 11 of the client terminal units 1 that are winners in Step S115 of the flow chart shown in FIG. 16. Substantially in the center of a winner display screen 630 is displayed a winner displaying portion 631

for displaying that the player is a winner. A message portion 632 is displayed at the upper end of the winner displaying portion 631, wherein "Survived First Round!!" is displayed in the message portion 632, enabling the player to confirm that he was a winner in the first round.

FIG. 23 is one example of a diagram showing a competition result displaying screen displayed on the monitors 11 of the client terminal units 1 that are winners in Step S115 of the flow chart shown in FIG. 16. On a competition result display screen 640 are displayed a round number displaying portion 641 arranged substantially in the center of the screen 640 and adapted to display the result of which round is shown, a remaining time displaying portion 642 arranged above the round number displaying portion 641 and adapted to display a remaining time up to the start of the next round, and a frame displaying portion 643 arranged at the left and right sides of the round number displaying portion 641 and adapted to display frames forming the competition game tournament. Winner displaying portion 643a representing winners of the competitions and a player displaying portion 643b representing players playing the competition game using this client terminal unit 1 are displayed in the frame displaying portion 643.

The names and ranks of the competitors in the next round (second round) can be confirmed with reference to the winner displaying portions 643a and the player displaying portions

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643b. Here, the names and ranks of the competitors in the second round are "Technic 1st Dan", "Natrium 2nd Dan", "Abogadoro 8th Dan". It should be noted that the rank of the player having the name "Abogadoro" is displayed as "Koryu", which means the 8th Dan.

FIG. 24 is one example of a diagram showing a competition result display screen displayed on the monitors 11 of the client terminal units 1 that are winners in Step S115 of the flow chart shown in FIG. 16. On a competition result display screen 650 are displayed a round number displaying portion 651, a remaining time displaying portion 652 and a frame displaying portion 653 as in FIG. 23. Further, winner displaying portions 645a and a player displaying portion 653b are shown in the frame displaying portion 653.

The round number displaying portion 641 displays "Final Round" and the results of the second round are displayed, whereby it can be known that the next round is the final round. The names and ranks of the competitors in the next round (final round) can be confirmed with reference to the winner displaying portions 653a and the player displaying portion 653b.

FIG. 25 is one example of a diagram showing a continuation necessity input screen displayed on the monitor 11 of the client unit 1 if the player is a loser in Step S115 of the flow chart shown in FIG. 16. On a continuation necessity input screen 660 are displayed a round number displaying portion 661 arranged

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substantially in the center of the screen 660 and adapted to display the result (loser) of which round is shown, and a continuation necessity displaying portion 662 arranged below the round number displaying portion 661 and used to enter whether or not the competition game will be continued. A continuation button 662a to be pressed down if the competition game will be continued and an end button 662b to be pressed down if the competition game will be ended are displayed in the continuation necessity displaying portion 662. The player can confirm the competition result and make an entry as to whether or not to continue the competition game using the continuation necessity input screen 660.

As described above, the competition ending section 361d instructs the participating terminal units 1r to end the competitions in the respective rounds in accordance with the limit times (here, respectively 10 minutes) for the competition games set for the respective rounds up to the semifinal round (here, up to the second round) and determines the winning participating terminal units 1r in accordance with the dominance (here, scores) in the progress statuses of the competition games when the competitions were ended. Thus, the competition games can quickly and smoothly proceed by suitably setting the time limits for the competition times.

Particularly, upon playing a competition game having no time limit such as a mahjong game in a tournament per Internet,

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the game is played among players at remote places in some cases. In such cases, the statuses and the like of the players participating in the tournament are difficult to get hold of. Thus, an effect of quickly and smoothly proceeding with the competition game as described above becomes larger. In other words, an occurrence of waiting times between the respective rounds of the tournament, the players can comfortably enjoy the competition games in the form of the tournament.

Further, if the participating terminal number RN counted by the participating terminal number counting section 361e coincides with the maximum participating terminal number RNM that is the total number of the game terminal units 1 constituting the competition game tournament, the participating terminal units 1r are instructed to start the competition games. Alternatively, if a predetermined time (reset time LT) lapses from the timing at which the participating terminal number RN changed from 0 to 1, the participating terminal number RN is reset to 0 and the participating terminal units 1r are instructed to start the competition games at this resetting timing. Therefore, the waiting time up to the instruction of the start of the competition game after receiving the participation in the competition game by the participation receiving portion 361a is shortened to or below the predetermined time (= reset time LT of, e.g. 60 seconds), and the competition games can more quickly proceed.

Further, the combination generating section 316b fits the participating terminal units 1r in the combinations of the tournament competition game from the timing of resetting the participating terminal number RN on. Thus, the participating terminal units 1r are fitted in the combinations of the tournament at the point of time when the participation in the competition game tournament is received, and the players can more comfortably play the competition game.

In addition, the combination interval setting section 361f sets the reset time LT in accordance with the date and hour. Thus, if the predetermined time is set to be longer (e.g. 60 seconds) at the date and hour when the participating terminal number increases at a slower rate (when the frequency of reducing the participation from the players is lower) while being set to be shorter (e.g. 30 seconds) at the date and hour when the participating terminal number increases at a faster rate (when the frequency of receiving the participation from the players is higher), the waiting time up to the instruction of the start of the competition game after receiving the participation in the competition game is further shortened, whereby the competition games can more quickly proceed.

If the participating terminal number RN falls short of the maximum participating terminal number RNM, the combination generating section 316b allots the game terminal units 1 to be virtually operated by the CPU players as the lacking

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participating terminal units 1r. Thus, the competition game can proceed without giving any sense of discomfort to the players as in the case where the participating terminal number RN coincides with the maximum participating terminal number RNM that is a total number of the game terminal units 1 constituting the competition game tournament (as in the case where the participation of as many players as the maximum participating terminal number RN is received).

Further, the combination generating section 316b fits the participating terminal units 1r in the combinations of the tournament competition game in order to substantially equalize the number of the participating terminal units 1r to be fitted in each combination of the competition game tournament. Thus, if the participating terminal number RN falls short of the maximum participating terminal number RNM, the number of the game terminal units 1 allotted to the respective combinations as the lacking participating terminal units 1r and to be virtually operated by the CPU players substantially coincides, with the result that the players participating in the tournament can play the competition game substantially on the same conditions.

In addition, the competition ending section 361d instructs the participating terminal units 1r to end the competition when no time limit for the competition time is set for the final round and the progress status of the competition game becomes a predetermined status (here, when the east round) is ended).

Thus, the competition in the final round, to which the players attach most importance, can be sufficiently satisfied, thereby making the competition game more interesting.

Since the number of winners set by the winner number setting section 361g are determined, the tournament competition becomes more various, making the competition game more interesting. For example, the strategies of the players in playing the competition game differ between the case where the players in the first and second places advance to the next round and the case where only the players in the first place advance to the next round in a competition game played by four players such as a mahjong game. Therefore, the competition game becomes more various and more interesting by setting the number of players who advance to the next round.

Further, since the game progress controlling section 161a proceeds with the competition game in accordance with the tile discarding time TA that is a predetermined time limit up to the discard of a tile from the point of time of drawing a tile.

In addition, since the game progress controlling section 161a proceeds with the competition game in accordance with the tile discarding times TA corresponding to the ranks representing the strengths of the players, the players can comfortably and quickly play the competition game if suitable tile discarding times TA are set in accordance with the ranks.

Further, since the tile discarding time TA is set to be

shorter by the timer 161f assuming that the higher the rank (the stronger the player), the shorter the tile discarding time TA required, the competition game can be more quickly and smoothly played.

Furthermore, the operation information to the effect of extending the tile discarding time Ta from the participating terminal unit 1r (operation information representing that the long-thought button TOB was pressed down) is received only a specified number of times (here, once) in each round, and the tile discarding time TA is extended only by a predetermined time (here, 5 seconds). Therefore, a time to decide the tile to be discarded can be given to the player without considerably hindering the progress of the competition game.

It should be noted that the present invention can also be embodied as follows.

(A) Although the competition game is a mahjong game in the description of the foregoing embodiment, it may be another competition game. For example, it may be a competition game with limit time, for which a competition time is set beforehand (e.g. a soccer game simulating soccer, a rugby game simulating rugby) or a competition game without time limit, for which it is difficult to set a competition time due to the nature of the game (e.g. *Go* game simulating *Go*, a *Shogi* game simulating *Shogi*, a chess game simulating chess, a card game simulating ordinary playing cards, Japanese cards, Japanese flower cards, and a

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sports game simulating tennis, baseball, table tennis, volleyball or badminton).

(B) Although the case where the client terminal units 1 are communicably connected with the central server 3 via the shop servers 2 is descried in the foregoing embodiment, the client terminal units 1 may be directly communicably connected with the central server 3. However, in such a case, the central server 3 or the client terminal units 1 need to exchange the operation information among the client terminal units 1.

(C) Although the tournament comprised of three rounds and made up of sixty four players is described in the foregoing embodiment, the tournament may have another form. For example, each competition game may be played by two players and the tournament may be comprised of four rounds and be made up of sixteen players.

(D) Although the competition ending section 361d sets no time limit for the final round in the description of the foregoing embodiment, it may also set a longer time limit for the final round than for the other rounds. For example, a time limit of 10 minutes may be set for the first and second rounds and a time limit of 20 minutes may be set for final round as in the foregoing embodiment. In such a case, convenience for players having a time restriction (e.g. having a tight schedule) can be improved since the tournament finishes within a predetermined time limit.

(E)   Although the winner number setting section 361g sets the number of winners in each combination to one in the description of the foregoing embodiment, it may set this number to two or more.   For example, in the mahjong game of the foregoing embodiment, the number of winners in each combination may be set to two for the first and second rounds while being set to one for the final round.   In such a case, a tournament comprised of three rounds and made up of sixteen players is formed and the number of participants is less as compared to the foregoing embodiment.   Thus, combinations of the tournament can be generated easily (within a shorter period).

(F)   Although the functional sections such as the game progress controlling section 161a are provided in the client terminal units 1 in the description of the foregoing embodiment, they may be provided in the central server 3.

INDUSTRIAL APPLICABILITY

According to the game progress administering system (game progress administering method, game progress administering program) of the present invention, the participating terminal units are instructed to end competitions in the respective rounds in accordance with the time limit for the competition time set beforehand at least for the respective rounds up to the semifinal round and the winning participating terminal units are determined in accordance with the dominance in the progress

statuses in the competition games when the competitions were ended. Therefore, the competition games can quickly and smoothly proceed by suitably setting the time limit for the competition time.